Kansas Agricultural Experiment Station Research Reports

Volume 0
Issue 1 *Cattleman's Day (1993-2014)*

Article 1209

1980

Rumensin and drylot vs. pasture systems for early-weaned calves

W.D. Busby

L.R. Corah

M. McKee

See next page for additional authors

Recommended Citation

Busby, W.D.; Corah, L.R.; McKee, M.; Fink, G.; and Pope, Ronald V. (1980) "Rumensin and drylot vs. pasture systems for early-weaned calves," *Kansas Agricultural Experiment Station Research Reports*: Vol. 0: Iss. 1. https://doi.org/10.4148/2378-5977.2612

Rumensin and drylot vs. pasture systems for early-weaned calves

Abstract

Seventy-six Polled Hereford and percentage Simmental calves were used to evaluate Rumensin and drylot vs. pasture systems by average daily gain of early-weaned (54 day old) calves. Rumensin was fed at 10 g/ton of feed for 28 days and 20 g/ton thereafter. The starter and standard creep rations were self-fed to both the drylot and pasture groups. Drylot calves outgained calves on pearl millet pasture 196 lbs to 140 lbs during the 76-day pasture trial. Rumensin decreased fecal samples containing coccidial oocytes and improved total gain 5.5% and feed efficiency 4.8%.

Keywords

Cattlemen's Day, 1980; Report of progress (Kansas State University. Agricultural Experiment Station); 377; Beef; Drylot vs. Pasture Systems; Early-weaned calves

Authors

W.D. Busby, L.R. Corah, M. McKee, G. Fink, and Ronald V. Pope

Rumensin and Drylot vs. Pasture Systems for Early-weaned Calves[1]

W. D. Busby, L. R. Corah, M. McKee, G. Fink, and R. Pope

Summary

Seventy-six Polled Hereford and percentage Simmental calves were used to evaluate Rumensin and drylot vs. pasture systems by average daily gain of early-weaned (54 day old) calves. Rumensin was fed at 10 g/ton of feed for 28 days and 20 g/ton thereafter. The starter and standard creep rations were self-fed to both the drylot and pasture groups.

Drylot calves outgained calves on pearl millet pasture 196 lbs to 140 lbs during the 76-day pasture trial. Rumensin decreased fecal samples containing coccidial oocytes and improved total gain 5.5% and feed efficiency 4.8%.

Introduction

Early weaning can be useful in the following situations: 1) emergency conditions such as drought, 2) drylot systems, 3) accelerated rebreeding of heifers after first and second calves, 4) fall calving where heavy winter feeding would be required, and 5) induced twinning. Previous work here (1975 and 1976 Cattlemen's Day) showed that energy was used more efficiently by early weaning calves.

Rumensin has improved weight gain and feed efficiency in calves weighing over 400 lbs; however, data are limited on its benefits for young, small calves.

Experimental Procedure

Seventy-six Polled Hereford and percentage Simmental calves, all born in confinement, were weaned at 30 to 80 days of age (average, 54) and allotted by age, weight, sex, and breed to four treatment groups: 1) Rumensin and drylot, 2) control and drylot, 3) Rumensin and hybrid pearl millet pasture, and 4) control and hybrid pearl millet pasture. Two groups of early weaned calves were involved; the first (60 head) were weaned May 11 (avg. age, 56 days) and allotted equally to the 4 treatment groups. The second group of later born calves (16 head) were weaned June 6 (avg. age, 43 days) and allotted to either Rumensin and drylot or control and drylot. After calves were weaned, they were housed indoors 12 days preceding the trial with access to the control starter creep ad libitum (table 10.1) and fresh

[1]Rumensin is a trade name of Elanco Products Co., Division of Eli Lilly and Company, Indianapolis, IN 46206.

water. Calves were housed outside during the trial. Rumensin calves received the starter creep ad libitum with 10 g Rumensin/ton. All drylot calves received 1 lb/day of native grass hay after day 21. After 28 days, Rumensin in the starter creep was increased to 20 g/ton. After day 50, 2 groups of calves were pastured on hybrid pearl millet 76 days, and 2 groups remained in drylot. On day 57, all calves were switched from starter creep to standard creep.

Initial weights were taken after 5 hours off feed and water; final weights, after 12 hours off feed and water. Fecal samples were collected on days 0, 14, and 29 and analyzed for coccidial oocytes.

Bull calves will continue receiving Rumensin to determine its effect on bull reproduction. Results will be reported later.

Results and Discussion

Results are shown in table 10.2. Drylot calves gained more than calves on pearl millet pasture. Regardless of sex or breed, calves responded to Rumensin similarly whether in drylot or on pasture.

Fourteen of sixteen fecal samples taken at the start of the trial had coccidial oocytes. Two weeks later, 1 of 9 samples from calves receiving Rumensin and 5 of 9 control samples had coccidial oocytes. Samples taken 15 days later showed no oocytes in either group.

The weight gain from day 21 to 51 was significantly greater for the Rumensin vs. control calves. Feed efficiency for drylot calves on Rumensin was 4.14 vs. 4.34 for controls.

Table 10.1. Creep rations for early-weaned calves

Ingredient	Starter ration (%)	Standard creep ration (%)
Rolled oats	21.85	65.30
Rolled corn	36.74	18.30
Soybean oil meal	21.85	4.62
Calf Manna[a]	14.90	---
Fat	1.49	1.52
Dry molasses	---	5.08
Dehydrated alfalfa	---	4.57
Salt	.99	.51
K-State Swine Vitamin Premix[b]	.99	---
Dicalcium phosphate	.60	---
Limestone	.60	---
Z 10 trace mineral[c]	---	.05
Vitamin A (30,000 IU/lb)	---	.04

[a]Calf Manna is made by Albers Milling Company.

[b]Premix contains: Vitamin A, Vitamin D, Riboflavin, d-calcium pantothenate, choline chloride, niacin, Vitamin E and Vitamin B_{12}.

[c]Z 10 trace mineral is made by Calcium Carbonate Co.

Table 10.2. Performances of early-weaned calves fed Rumensin and drylot vs. pasture systems.

	Control	Rumensin	Pasture	Drylot
No. of head	38	38	30	30
No. of days on trial	114	114	76	76
Average birth date	March 22	March 20	---	---
Average age at weaning (days)	53.6	53.3	---	---
Initial weight, lbs	207.4	208.4	333.5	335.8
Final weight, lbs	479.1	491.0	474.0	531.5
Total gain	271.7	282.6	140.5	195.7
ADG	2.38	2.48	1.85	2.58
Total feed intake/lb of gain* (Drylot reps only 23 hd/treatment)	4.34	4.14	---	---
Creep ration consumption/head/day	---	---	9.78	13.91

*Values reported on as-fed basis with the ration containing 89.1% dry matter.